New Species of *Alyxia* Banks ex R. Brown (Apocynaceae) and *Glochidion* J. R. & J. G. Forster (Euphorbiaceae) from the Pitcairn Islands (South East Pacific)

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ABSTRACT. *Alyxia fosbergii*, endemic to Henderson Island, and *Glochidion comitum*, endemic to Pitcairn, are here described as new.

During fieldwork conducted as part of the Sir Peter Scott Commemorative Expedition to the Pitcairn Islands—PISE (1992), a botanical survey with extensive observations and collections was made of the flora and the vegetation of these islands (Florence et al., 1995; Waldren et al., 1995).

Alyxia (Apocynaceae) is distributed throughout South East Asia, Malesia, Australia, and the Pacific, where it extends to Henderson, its eastern limit. With about 120–130 species, this genus is represented in Polynesia by *A. scandens* (J. R. & J. G. Forster) Roemer & Schultes, *A. stellata* (J. R. & J. G. Forster) Roemer & Schultes, and their relatives (Fosberg, 1968; Fosberg & Sachet, 1974; Grant et al., 1974; A. Smith, 1988). I describe here a new species belonging to this group.

Alyxia fosbergii Florence, sp. nov. TYPE: Pitcairn Islands. Henderson: Piste Camp Nord–Camp Sud, km 3.5, 128°19′W, 24°21′S, 25 m, 13 May 1991, *Florence, Chepstow-Lusty & Waldren 10893* (holotype, K; isotypes, BISH, P, PAP, TER, US). Figure 1.

Ab *A. stellata* var. *stellata*, 4–5 verticillatis latioribusque foliis, majoribus trifloris cymis, majoribus floribus cum longioribus pedicellis, pilis minus densis ovarii base, ellipticis valde transverse sulcato-rugosis seminibus, praecipue differt.

An erect or ± scandent, glabrous subshrub to shrub, about 8 m high, the trunk ca. 2 cm diam., simple or few-branched in the upper part, with arching-drooping branches and abundant milky latex. Leaves generally verticillate in whorls of 4, more rarely by 3 or 5. Lamina elliptic, rarely oblanceolate, 4.1–7.2 cm long and 1.3–2.5 cm wide (larger on sterile shoots), L/W = 3, margin entire, generally lightly revolute in sicco, apex obtuse, base attenuate on a petiole 1.5–3 mm long, costa canaliculate above, prominent beneath, nerves 12–20 pairs, sometimes furcate, inconspicuous to slightly apparent on both sides. Inflorescences glabrous, erect, axillary, in 3(4)-flowered cymes, peduncle 1.1–2.2 cm long, bracts triangular, up to 1.5 mm long. Flowers with a honey-like scent, bracteoles absent, pedicel 0.5–1.2 cm long; calyx deeply lobed, 2–3 mm high, lobes deltoid, 2 × 1 mm, glabrous or occasionally with sparse pubescence at the acute apex; corolla hypocrateriform, tube orange to salmon in vivo, about 8 mm long, slightly expanded at the point of insertion of stamens, constricted at the throat, glabrous outside, pubescent inside for the first 1.5 mm below the stamens, lobes cream to yellow in vivo, asymmetrically triangular, 5.5 × 3 mm; stamens inserted 3 mm below the throat, filaments glabrous, 0.4 mm, anthers narrowly lanceolate, 1.3 mm, apex acute; disk inconspicuous, ovary glabrous, 1.2 mm high, surrounded at the base by straight hairs ca. 0.4 mm long, style glabrous, about 4.5 mm, clavuncula cylindrical, glabrous at the base, apex with stiff hairs concealing the stigma. Fruit a pair of drupaceous mericarps on stipes ca. 5 mm, generally only one maturing, composed of a single article or very rarely two, ± ellipsoid, reaching 2 × 1 cm, black at maturity in vivo, short-beaked, glossy or slightly rugose in sicco; seed black, 1.5 × 0.8 cm, transversely strongly sulcato-rugose, ventrally deeply furrowed.

Distribution and common name. Endemic to Henderson, an upraised limestone island. Known as "maire," this is also the name given by the inhabitants from French Polynesia for *A. scandens* and *A. stellata*.

Ecology. Found in *Pisonia* forest at 20–30 m, on coral gravel or broken lapiaz, generally in sunny places, tree gaps, or the edges of paths.

Alyxia fosbergii is a relative of *A. stellata* from the South Pacific, of which several varieties have been described from East Polynesia to New Caledonia. The new species differs from *A. stellata* var. *stellata* by its consistently 4(–5) verticillate leaves, more elongate cymes, larger flowers, and seeds with

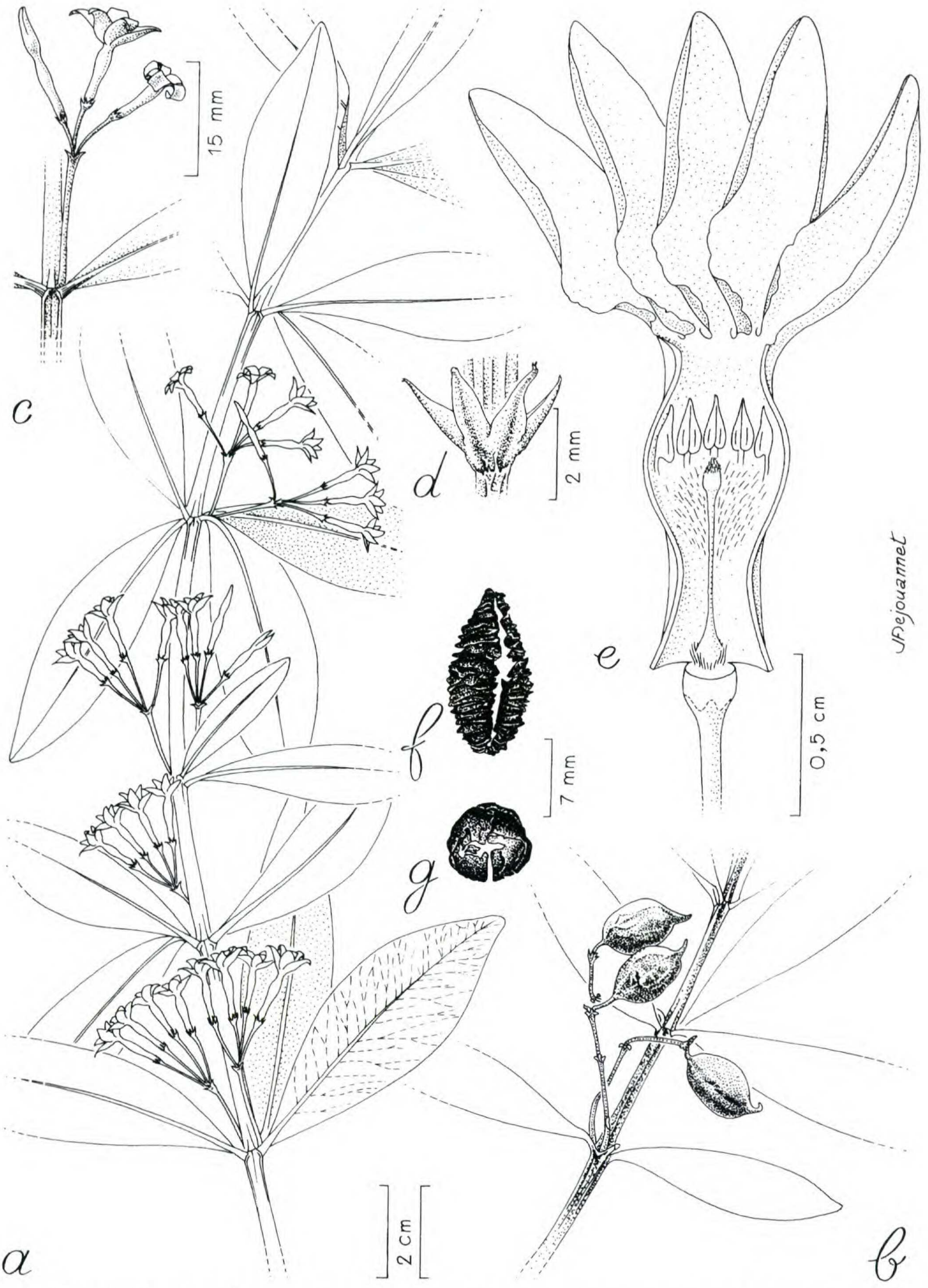

Figure 1. *Alyxia fosbergii* Florence. —a. Flowering branch. —b. Infructescence. —c. Inflorescence. —d. Calyx. —e. Corolla open, showing androecium and gynoecium. —f. Seed, longitudinal view. —g. Seed, cross section. (a, c–e, based on *Florence, Chepstow-Lusty & Waldren 10895*; b, f, g, based on *Florence 10959*.)

a more deeply rugose coat. This species was treated as *Alyxia stellata* by Saint John and Philipson (1962: 192) and *Alyxia* sp. by Fosberg et al. (1989: 9) and Florence et al. (1995: 84).

The species is named in honor of the late F. R. Fosberg, who was the first to point out the distinctness of the material of Henderson Island (1989: 9), but was not able to publish it as new before his death.

Paratypes. PITCAIRN ISLANDS. **Henderson:** Piste Camp Nord–Camp Sud, km 0.75, 24°20′S, 128°19′W, 30 m, 3 May 1991, *Florence 10848* (BISH, K, P, PAP, US), 24°20′S, 128°19′W, km 0.6, 30 m, 7 June 1991, *Florence 10959* (BISH, K, P, PAP); Piste Camp Nord–Camp Ouest, 24°20′S, 128°20′W, 30 m, 12 May 1991, *Florence, Chepstow-Lusty & Waldren 10887* (PAP); Piste Camp Nord–Camp Sud, km 4.6, 24°22′S, 128°19′W, 30 m, 13 May 1991, *Florence, Chepstow-Lusty & Waldren 10895* (BISH, E, K, MO, P, PAP, TER, US, WAG), km 6.7, 24°23′S, 128°20′W, 35 m, 15 May 1991, *Florence, Chepstow-Lusty & Waldren 10918* (P, PAP), km 0.8, 24°20′S, 128°19′W, 30 m, 23 May 1991, *Florence, Chepstow-Lusty & Waldren 10927* (PAP); Henderson: 3–4 Feb. 1957, *Lintott H.4* (BISH); Henderson: North End, 33 m, 18 June 1934, *Saint John & Fosberg 15127* (BISH 2 sheets, P); North Center, 30 m, 20 June 1934, *Saint John & Fosberg 15168* (BISH 2 sheets), 30 m, 20 June 1934, *Saint John & Fosberg 15178* (BISH, 2 sheets, K); Henderson: Aug. 1912, 100 ft., *Tait 46* (BISH).

The genus *Glochidion* occurs mainly in tropical Asia, Malesia, and the Pacific. With probably over 200 species, this genus is considered to be taxonomically difficult, with poorly defined characters. Vegetative features and male flowers are uniform in the region, but careful attention to the female flowers makes it possible to delimit taxa within this highly differentiated group, at least in the Pacific basin. I describe here a new species related to the species in East French Polynesia.

Glochidion comitum Florence, sp. nov. TYPE: Pitcairn Islands. Pitcairn: Sommet Crête Sud-Est, 25°4′S, 130°7′W, 300 m, 19 Apr. 1991, *Florence 10740* (holotype, K; isotypes, BISH, BM, DAV, E, L, MO, P, PAP, TER, US). Figure 2.

A *G. taitense* Baillon ex Mueller-Argau, brunneo rubente indumento vestitis ramis, minore hirsuto pedicello solitaris femineis floribus, conico vel subgloboso plerumque plurilocullariore sparse sericeo indumento vestito ovario, breviore quam stylo, praecipue differt.

A shrub or tree 2.5–4 m high, the trunk 2–5 cm diam., branches plagiotropic, young twigs covered with a dense brown reddish pubescence. Leaves alternate, distichous. Lamina ovate to oblong, falcate, generally asymmetrical, reaching 5.2–9.7 cm long and 3.2–6.3 cm wide (smaller on regrowth shoots), L/W = 1.7, sparsely pubescent to glabrous above, sparsely soft pubescent beneath, margin entire, apex acute, slightly acuminate, obtuse or rounded, base cuneate, unequally cuneate, truncate or slightly subcordate, petiole 1.5–3 mm long, costa and nerves raised above, prominent beneath, nerves 4–6 pairs, stipules narrow, unevenly deltoid, about 1 mm high. Male flowers glabrous, slightly fleshy, axillary and solitary or in pairs, more rarely with a female, 2–2.4 mm long, 3(very rarely 4)-merous, yellow green in vivo, pedicel reflexed, glabrous, swollen below the calyx, reaching 5–7.5 mm long, calyx cupuliform, about 2.2 mm, outer tepals ovate, 1.9 × 1.3 mm, inner tepals, ovato-oblong, 1.7 × 1.2 mm, subsessile staminate columm of 3(4) stamens, 1.3 mm high, connective prolonged in a narrow triangular appendage, 0.3 mm long. Female flowers axillary and solitary or rarely with a male flower, 1.8–2.2 mm, pedicel hirsute, swollen below the calyx, reaching 1–2 mm long, calyx cupuliform, 1.3 mm, outer tepals deltoid, 1.1 × 1 mm, inner tepals, ovato-oblong, 0.9 × 0.7 mm, generally outside sparsely pubescent along their midribs with hairs of the same type as on the pedicel, ovary conical or subglobose, 4–7 locular, about 0.7 mm high and 0.85 mm wide, with short white pubescence, prolonged into a slightly 4–7 emarginate, glabrous style, 1.2–1.5 times its length. Fruit on an accrescent pedicel about 5 mm long, both covered by a ± dense and persistent pubescence, the body of fruit 1.3 cm wide and 0.4 cm high, slightly 4–6 sulcate, with a ± persistent calyx; seeds plano-convex, 2.2 mm high and 2.6 mm wide, testa fleshy.

Distribution. Known only from Pitcairn, the chief island of the Pitcairn group.

Ecology. Found in open stations, at the edges of disturbed *Homalium-Syzygium* or *Ficus-Aleurites* forests or in open shrubby *Psidium-Sorghum* community; apparently rare.

This is a striking species, pointed out as *Glochidion* sp. by Florence et al. (1995: 103), belonging to a group of taxa of east Polynesia characterized by a pubescent ovary with 4–7 locules. It has remote affinities with the group centered around *G. taitense* Baillon ex Mueller-Argau, from which it differs by a more massive ovary and a shorter massive stylar column. The same features place it near undescribed material of the Society Leeward Islands that is currently under study as part of a revision of the genus in French Polynesia.

The specific epithet is derived from the Latin "comes," meaning companion. This new taxon is dedicated to Alex Chepstow-Lusty and Steve Waldren, the two botanists who were my field compan-

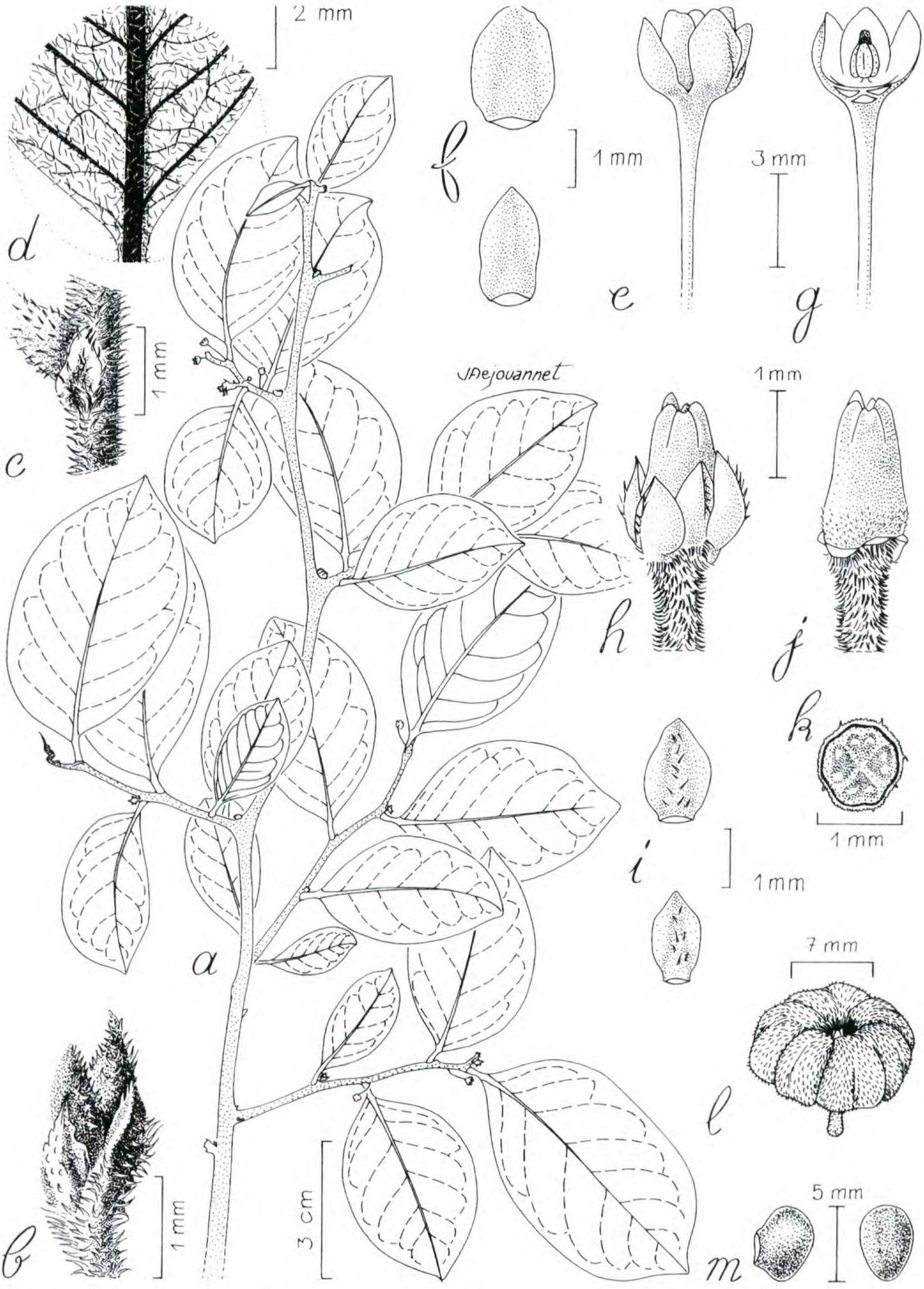

Figure 2. *Glochidion comitum* Florence. —a. Habit. —b. Detail of apex of shoot. —c. Stipule. —d. Detail of base of leaf, ventral view. —e. Male flower. —f. Outer and inner tepal, dorsal view. —g. Androecium, front tepals removed. —h. Female flower. —i. Outer and inner tepals, dorsal view. —j. Gynoecium. —k. Cross section of ovary. —l. Fruit. —m. Seed, lateral and dorsal view. (a–k, based on *Florence 10740*; l, m, based on *Florence & Chepstow-Lusty 10754*.)

ions on the expedition during which the type material was collected.

Paratypes. PITCAIRN ISLANDS. **Pitcairn:** Route Sud-Est de la Radio Station, 25°4′S, 130°6′W, 95 m, 18 Apr. 1991, *Florence 10728* (BISH, K, P, PAP, US), Sommet crête Sud-Est, 25°4′S, 130°7′W, 300 m, 19 Apr. 1991, *Florence & Chepstow-Lusty 10754* (P, PAP); Route Sud-Est de la Radio Station, 25°4′S, 130°6′W, 160 m, 18 Apr. 1991, *Florence & Chepstow-Lusty 10730* (BISH, E, K, MO, P, PAP, TER, US); Pitcairn: Fatlands, 100 m, 13.6.1934, *Fosberg & B. Christian 11237* (BISH).

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